Students, Universities and Open Education

Final report 2016

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Acknowledgements

List of acronyms used

AARNet	Australia's Academic and Research Network
AAF	Australian Access Federation
ABC	Australian Broadcasting Corporation
ACODE	Australasian Council for Open and Distance and E-learning
AUSGOAL	Australian Governments Open Access and Licensing Framework
ascilite	Australasian Society for Computers in Learning in Tertiary Education
CADAD	Council of Australian Directors of Academic Development
CAUDIT	Council of Australian Directors of Information Technology
CAUL	Council of Australian University Librarians
CSU	Charles Sturt University
NBNCo	National Broadband Network Co
NCU	National Copyright Unit
NUS	National Union of Students
ODLAA	Open and Distance Learning Association of Australia
OE	Open Education
OER	Open Educational Resources
OEP	Open Educational Practice
OERu	Open Educational Resource Universitas
OLT	Office for Learning and Teaching
OPAL	Open Educational Quality Initiative
OUA	Open Universities Australia
POERUP	Polices for OER uptake
SBS	Special Broadcasting Service
TEQSA	Tertiary Education Quality and Standards Agency
UA	Universities Australia
UA DVCAs	Universities Australia Deputy Vice-Chancellors Academic Network
UA DVC Corp	Universities Australia Deputy Vice-Chancellors Corporate Network
UOW	University of Wollongong
USQ	University of Southern Queensland
UTAS	University of Tasmania
UTS	University of Technology Sydney
UWS	University of Western Sydney – previous name for WUS
WUS	Western Sydney University – new name for UWS

Executive summary

Project context

Australia has a long history in distance education both as an early pioneer and in delivery at scale. However, the authors believe that we now lag the rest of the world in fostering Open Education and use of Open Educational Resources. This is an anachronism in the context of a higher education sector and an overall economy that has moved decisively into a digital plane.

Open Education is the adoption of practices that support the (re)use and production of open education resources (OER) through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path[1].

The benefits of Open Education for Australia include:

- economies of scale through collaborative co-production of learning resources;

- opportunity to raise quality of learning at decreased time and financial cost;

- provision of learning materials that are richer, and more appropriate to the contexts and styles of learning of an increasingly diverse student community;

- opportunity to provide learning to disadvantaged communities globally and to the remote and regional areas of Australia;

- promote greater collaboration between Universities in fostering peer review and collegial development of learning materials;

- greater levels of transparency into the teaching process.

Open Education can play an important role in positioning Australian higher education on the global stage through showcasing the expertise contained within our Universities.

Project aims

The OpenEdOz project had the following aims:

- Focus on the missing voice of students in understanding emerging technology-based open educational practices (OEP)

- Determine how student learning outcomes can be enhanced with open education practices

- Develop case studies that capture university practice and

- Develop a National Roadmap for an Australia Open Education Strategy, fostering relevant uptake of open educational resources (OER) and open courses.

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[1] OPAL (2011). The Open Educational Quality Initiative (OPAL) Report, Beyond OER: Shifting Focus to Open Educational Practice, p.12. Retrieved October 9, 2016 from:
https://oerknowledgecloud.org/sites/oerknowledgecloud.org/files/OPAL2011.pdf

Project approach

A distinctive feature of the project's approach was the development of the national strategic implications in parallel with the practice components of the project so that practice was informing strategy. Practices in the three different types of institutions were supplemented by targeted case studies from national and international reference group members. Recommendations and strategies for national action were surfaced from analysis of the case studies and workshopped at a national Think Tank and events organised by the Office for Learning & Teaching and Universities Australia.

Project outputs/deliverables/resources

The OpenEdOz project achieved its aims in the following ways:

- Sourced 22 case studies/snapshots of open educational practices offering insights into national strategy

- Organised four interactive events to workshop our understandings of national strategy

- Sourced and analysed international literature and projects on national OER policy

- Collected cases and data from attending three international events

- Developed website OpenEdOz.org with case studies, video presentations from case studies, a detailed reference list, key contacts, final report

- Drafted three Key Recommendations and 25 Contributing Strategies grouped under 10 Roadmap Signposts for over 20 national bodies that could support national action on Open Education.

Key recommendations for national action

From analysis of 22 case studies of open education practices and outcomes from the Think Tanks, the project has derived three key recommendations for national action.

1. Approve a national strategy to leverage contemporary information technology for improving productivity of higher education through use of Open Educational Resources

2. Fund a national body to drive the strategy development

3. Engage relevant national organisations in implementation of elements of the strategy as per the OpenEdOz National Roadmap

A number of suggested individual strategies that could contribute to national action are provided in the OpenEdOz National Roadmap which has ten signposts: Awareness, Students, Teachers, Standards, IP & Copyright, ICT Infrastructure, Research, Discoverability, Collaboration and Sustainability.

The key recommendations for national action invite national organisations such as the following to engage with our Roadmap:

National university leadership organisations:

- Universities Australia (UA) in particular the DVC Academic network

- Tertiary Education Quality and Standards Agency (TEQSA)
- Australian Councils of Deans
- National Union of Students (NUS)

Content providers:

- Australian Broadcasting Corporation (ABC)
- Open Universities Australia (OUA)

Technology providers:

- Australia's Academic and Research Network (AARNet)
- National Broadband Network Co (NBNCo)

Intellectual Property leadership:

- AUSGOAL (Australian Governments Open Access and Licensing Framework)
- Australian Digital Alliance
- Creative Commons Australia
- National Copyright Unit

Organisations of professionals, individual or institutional members, working in university e-learning:

- Australasian Council for Open Distance and E-learning (ACODE)
- Australasian Society for Computers in Learning in Tertiary Education (ascilite)
- Council of Australian University Directors of Information Technology (CAUDIT)
- Council of Australian Directors of Academic Development (CADAD)
- Council of Australian University Librarians (CAUL)
- Higher Education Research & Development Society of Australia (HERDSA)
- Open & Distance Learning Association of Australia (ODLAA)

All these national education bodies need to be fully engaged as the drivers of Australia's Open Education Strategy for universities. We invite them to place Open Education firmly on their agenda but to do so with a practical and deep understanding of what constitutes "open".

At the time of formulating the project recommendations, the project team envisaged an overarching role for the Office for Learning and Teaching. However, the OLT ceased operating at around the end of this project. Noting this, the team now envisages a support role for Commonwealth government.

We note there may also be a role for state governments and point to outstanding initiatives at the state/province level in Canada and the US such as the British Columbia Open Textbook project[2] launched by the British Columbia Ministry of Advanced Education and the Tacoma Community College Open Education project[3] in Washington State.

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[2] Retrieved October 9, 2016 from: http://openedoz.org/wp-content/uploads/2015/10/The-British-Columbia-Open-Textbook-Project.pdf
[3] Retrieved October 9, 2016 from: http://openedoz.org/wp-content/uploads/2015/10/Tacoma-Community-College-Open-Education-Project.pdf

Table of contents

Tables and figures

Chapter 1 Project Context

What is Open Education?

Open education is the adoption of practices which support the (re)use and production of open education resources (OER) through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path[1].

Open education is the umbrella term that covers everything we're doing with openness as a lever to try to expand access to educational opportunity to the entire world. OER are part of it; open teaching is part of it, open access is to research part of it, open assessment is part of it, open badges and other open credentials are part of it, open policies are part of it, etc.[2]

The 2012 Paris OER Declaration (under the auspices of UNESCO) defines OER as 'any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation'[3].

Previous projects & initiatives

The cornerstone of the project is the development of a National Roadmap for Open Education that will complement and reinforce the recommendations for Institutional Strategies produced in a previous OLT project by OpenEdOz team member Carina Bossu. The focus of the 2014 OLT project[4] was institutional strategy. However, it also identified a national policy gap.

Similarly Sir John Daniel, in a study for the Commonwealth of Learning about national policies identified Australia as one of the countries without a national policy[5]. Whilst the Australian government has put resources and support behind its aspiration to facilitate open

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[1] OPAL (2011). The Open Educational Quality Initiative (OPAL) Report, Beyond OER: Shifting Focus to Open Educational Practice, p.12. Retrieved October 9, 2016 from: https://oerknowledgecloud.org/sites/oerknowledgecloud.org/files/OPAL2011.pdf

[2] Wiley, D (2012). Retrieved October 9, 2016 from: http://www.educause.edu/discuss/information-technologcy-management-and-leadership/openness-constituent-group/open-education-vs-open-education-resource

[3] UNESCO (2012). Paris Declaration. Retrieved October 9, 2016 from: http://www.unevoc.unesco.org/go.php?q=Open%20Educational%20Resources

[4] Bossu, C, Brown, M & Bull, D (2014). Adoption, use and management of Open Educational Resources to enhance teaching and learning in Australia. Report for Office for Learning & Teaching. Retrieved October 9, 2016 from: http://www.olt.gov.au/system/files/resources/CG10_1687_Bossu_Report_2014.pdf

[5] COL/UNESCO Survey on Governments' Open Ed Resources (OER) Policies (2012). - Sir John Daniel preamble Retrieved October 9, 2016 from: http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/themes/Survey_On_Government_OER_Policies.pdf

access and reuse of Australia's publicly funded research resources via the Australian Government's Open Access and Licensing Framework (AUSGOAL)[6] the reform process has not significantly moved to embrace educational resources.

Australia has a long history in distance education both as an early pioneer and in delivery at scale. However, it now lags the rest of the world in fostering Open Education and use of Open Educational Resources. This is an anachronism in the context of a higher education sector and an overall economy that has moved decisively into a digital plane.

Why is Open Education important?

As a national sector, we have, with some exceptions, not shown leadership in open education. Open Access strategies for research outputs now seem more embedded and widely adopted but the understanding of the potential in relation to education and learning remains low. The importance of open education in universities' commitments to knowledge transfer and social justice is often presented at odds with universities' business models. This argument has played out in the area of research but is yet to be fully debated in learning and teaching.

The benefits of Open Education for Australia include:

- economies of scale through collaborative co-production of learning resources;

- opportunity to raise quality of learning at decreased time and financial cost;

- provision of learning materials that are richer, and more appropriate to the contexts and styles of learning of an increasingly diverse student community;

- opportunity to provide learning to disadvantaged communities globally; to the remote and regional areas of Australia;

- promote greater collaboration between Universities in fostering peer review and collegial development of learning materials;

- greater levels of transparency into the teaching process.

Open Education can play an important role in positioning Australian higher education on the global stage through showcasing the expertise contained within our Universities.

Recent reports

Universities Australia's recent *Keep it Clever*[7] statement highlights that Australia is now ranked 17 in the world for innovation and must improve this situation. The statement notes the significant role universities have to play as existing jobs disappear. Universities hold the major role in retraining and up skilling workers and producing graduates with the flexibility and resourcefulness that our country needs to remain competitive:

"Digital literacy will be essential for an estimated 90 per cent of Australia's workforce in the next five years. 'Disruptive technology' will drive further change across the economy, and

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[6]Retrieved October 9, 2016 from: http://www.ausgoal.gov.au/overview
[7]Retrieved October 9, 2016 from: http://keepitclever.com.au/wp-content/uploads/2015/10/Universities_Australia_Keep_it_Clever_Policy_Statement_2016.pdf

bring new urgency to the national skills agenda. Retraining and upskilling will no longer be a choice, but an essential and regular part of our working lives.

An era of unprecedented connectivity has also driven the emergence of the 'collaborative' economy, in which wide access to smart phones and digital devices is rapidly creating new business opportunities and new ways of working. These forces are fundamentally reshaping the industrial landscape.

As traditional industries recede, we will need to generate new jobs and new industries through innovation, creativity and technological development. Universities will be centre stage in driving this evolution." [8]

There are new opportunities to participate in the collaborative economy but in a context of restricted funding, universities will need to leverage these opportunities by working smarter.

Australian universities need to act now in:

- making use of contemporary technology to reduce the costs for students and the institution; and

- harnessing the transparency and accessibility of open educational resources to improve the quality of our learning resources.

This project calls for the development of a national Open Education strategy to improve the productivity of higher education in Australia. To remain competitive as a nation, Australia must rethink its educational priorities and outcomes in a cost-effective manner. The development and use of Open Education represents such an opportunity.

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[8] Foundation for Young Australians (2014). *The new work order*, (p.1)

Chapter 2 Project Approach

Project Team

The OpenEdOz project drew on two preceding OLT OER projects by team members[9] as well as on international knowledge of effective open educational practice (OEP) as represented in the Reference Group.

The three partner universities were:

- Charles Sturt University (lead) – a large regional university combining on-campus students at numerous locations throughout New South Wales and a majority of off-campus students studying at a distance

- University of Technology, Sydney – a large inner city university offering on-campus flexible education

- University of Tasmania – a regional university providing on-campus education at three locations across the state and some distance education

The International Project Reference Group comprised:

Prof Gráinne Conole, UK	Chair in Education, University of Bath Spa, UK
Prof Megan Quentin-Baxter, UK now Australia	Newcastle University, UK moved to University of Tasmania as Professor of Technology Enhanced Learning and Teaching near the start of this project
Dr Sarah Porter, UK	Formerly Head of Innovation, Joint Information Systems Council (Jisc)
Dr Irwin Devries, Canada	Director, Curriculum Development, Thompson Rivers University
Prof Wayne Mackintosh, NZ	Director, OER Foundation; Commonwealth of Learning Chair in OER, Otago Polytechnic
Sarah Lambert, Australia	Manager, Manager Open Education, University of Wollongong

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[9] Wilson, F, Whelehan, I & Sadler, D (2013). Bridging the gap: teaching adaptations across the disciplines and sharing content. Retrieved October 9, 2016 from: http://www.olt.gov.au/resource-library?text=bridging+the+gap%3A+teaching+adaptations+across+the+disciplines+and+sharing+content

Bossu, C, Brown, M & Bull, D (2014). Adoption, use and management of open educational resources to enhance teaching and learning in Australia. Retrieved October 9, 2016 from: http://www.olt.gov.au/system/files/resources/CG10_1687_Bossu_Report_2014.pdf

Case Studies

The partners worked with their students and staff to develop case studies of open, online education including the contribution of our students to co-created curriculum design. Practices in the three different types of partner institutions in Australia were supplemented by targeted case studies from national and international reference group members.

Ethics Approval was sought through the lead university's approval procedures – Protocol number is 300/2015/01. In order to better target the types of case studies that would be of benefit to the project, a Theme Matrix was developed and continuously modified as case studies were submitted (see Appendix F). The initial themes were derived from international literature and projects on national OER policy including UNESCO's Paris Declaration (2012), UNESCO and Commonwealth of Learning's *Guidelines for Open Educational Resources in Higher Education* (2013), a European project titled POERUP for Policies for OER Uptake (Bacsich, 2014) and the OPAL project (Open Educational Quality Initiative, 2011). Additional cases and data were collected when different project team members attended three international events: OER Symposium in Tasmania, 2014[10], OER2015 in Cardiff[11], UK and OpenEd2014 in Washington, USA[12].

Themes within open education that emerged included: Student Voice, Institutional Strategy, National Policy, Student Co-creation, Course offered as OER, Degree design based on OER, Module based on OER, Credit Transfer, Accreditation of informal & non-formal learning, Open Licensing, Open Textbooks. Sub-themes included: Lower costs, Access to university, New markets, Access to content expertise, Staff training, Province/state policy, Lower cost of entry to low SES students, Authentic learning experience, New markets, Philanthropic mission, Teacher voice, Role of Libraries, International curriculum, Standards, Quality, Transnational Accreditation Framework, Competency-based assessment, Recognition of Prior Learning, Moral position.

A significant challenge in creating a roadmap for others to follow was providing guidance based on individual case studies. Case studies provide rich, in-depth information collected by case reporters who highlight aspects of the case that she or he thinks best describes those particular circumstances. While they accurately describe the particular, it is less clear whether the reported circumstances would apply in different situations. One technique used to reduce the particularities of the case studies was for each case to investigate a different level of open education practice to present a collective picture of open education.

As a multi-level study it was expected that the case studies would be interconnected in some way. A network analysis of the individual case studies was undertaken to discover which components were related to each other and the strength of the association that existed between those elements (Figure 1). This analysis was used to devise a systemic view of who and what influenced open education practices and reveal the patterns within those interactions. It was expected that a visual representation of these patterns would open up alternative interpretations of the complexity and dynamic nature of the interactions than those offered by an in-depth analysis of any particular element alone.

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[10] Retrieved October 9, 2016 from: http://www.utas.edu.au/symposium-oer/home
[11] Retrieved October 9, 2016 from: https://oer15.oerconf.org/
[12] Retrieved October 9, 2016 from: https://openeducation2014.sched.org/

Figure 1: Network analysis of the project case studies

The network analysis looked at whether any relationships identified by the case reporters existed across the case studies. The focus was on the relationships between elements rather than on the individual elements themselves. The relational data that formed the network came from incidental descriptions of connections mentioned in the case studies. These elements were classified and entered into a frequency table with one representing a relationship and zero for no relationship. The resulting matrix formed the basis for the graphic representation of a set of objects connected by links that describes some kind of relationship. The size of the object in the network represented the frequency in which it was mentioned as the object of a relationship (ranging from once for graduates to 22 times for staff). The number of times a relationship was mentioned determined the thickness of the line that linked two objects. All the links between elements were put together to form a network with the closeness of objects defined as the shortest path connecting one element to another (ranging from 2 connections for graduates to 29 connections for staff). Relationships were labelled with the descriptor chosen by the case reporter and a case identifier, with 'awareness' the most commonly used descriptor across the network.

After defining the relationships and identifying the network, the final step was to select patterns that were illustrative of the specific relationships between different elements that indicate the overall connectedness of the network. No central element connected to all others emerged from the analysis. Instead two main clusters and another minor cluster emerged within the network.

The strongest cluster of associations was through the triad relationship among the staff, institutions and students. The strongest bonds that build these relationships between these elements came through Awareness and Sharing.

A second set of associations was between institutions, staff, textbooks and resources. Here the relationships were structured around finding OERs.

The third set of associations was a triad between resources, students and national policy where the significant issue was about cost.

The 22 final case studies comprised eight from the three Project Partners, two from other current related Australian national projects, three from other Australian universities, and nine from the International Reference Group.

Think Tanks

A distinctive feature of the project's approach was the development of the national strategic implications in parallel with the practice components of the project so that practice was informing strategy. A contributing factor in the success of the project is that the three Project Directors are all senior university executives, with high level national and international connections, who are well placed to develop national action on this topic. Two of the Project Directors were on OLT panels and as such, at the time of formulating the strategies, an overarching role was envisaged for the Office for Learning and Teaching, the funding body for this project, in implementing the project recommendations.

Recommendations and strategies for national action that would progress OEP in Australian university teaching were surfaced from analysis of the case studies and workshopped at a national Think Tanks and events organised by project team universities, Office for Learning & Teaching and Universities Australia in particular the UA DVC Academic network.

- International Think Tank – Sydney, Nov 2014
- Universities Australia Satellite Event – Canberra, Mar 2015
- National DVCA briefing – Sydney, Oct 2015
- Education without Borders – Albury, Nov 2015

The recommendations and strategies were formed up into the OpenEdOz National Roadmap for national action (Chapter 3).

National Roadmap

Drafts of the Roadmap were cascaded to national and international experts for feedback in addition to the following national organisations targeted in the Roadmap as potential facilitators of national action.

National university leadership organisations:

- Universities Australia (UA) in particular the DVC Academic network
- Tertiary Education Quality and Standards Agency (TEQSA)
- National Union of Students (NUS)
- Australian Councils of Deans

Content providers:

- Australian Broadcasting Corporation (ABC)
- Open Universities Australia (OUA)

Technology providers:

- Australia's Academic and Research Network (AARNet)
- National Broadband Network Co (NBNCo)

Intellectual Property leadership:

- AUSGOAL (Australian Governments Open Access and Licensing Framework)
- Australian Digital Alliance
- Creative Commons Australia
- National Copyright Unit

Organisations of professionals, individual or institutional members, working in university e-learning:

- Australasian Council for Open Distance and E-learning (ACODE)
- Australasian Society for Computers in Learning in Tertiary Education (ascilite)
- Council of Australian University Directors of Information Technology (CAUDIT)
- Council of Australian Directors of Academic Development (CADAD)
- Council of Australian University Librarians (CAUL)
- Higher Education Research & Development Society of Australia (HERDSA)
- Open & Distance Learning Association of Australia (ODLAA)

Chapter 3 Project Findings

The OpenEdOz Roadmap

OpenEdOz has derived three recommendations that signpost national action on behalf of Australian universities:

1. Approve a national strategy to leverage contemporary IT for improving productivity of higher education through use of Open Educational Resources

2. Fund a national body to drive the strategy development

3. Engage relevant national organisations in implementation of elements of the strategy as per the OpenEdOz National Roadmap.

The OpenEdOz National Roadmap (Table 1) points the way for what a national strategy might look like. It comprises 10 Signposts and 25 Contributing Strategies.

Table 1: Roadmap to a National Strategy

Signpost		Contributing Strategies	National Organisations
Advocacy	1.	Organise Australian summits, conferences, workshops and develop/collect resources to raise awareness of the importance of open education at the intersection of university business models and university knowledge transfer/social justice commitments	UA, OLT*, ACODE, CAUL, CADAD, CAUDIT, ODLAA
Students	2.	Define new Open Education Literacies as part of Digital Literacies and Information Literacies	UA DVCAs, OLT*
	3.	Research and evaluate student real use and understanding of open resources and open courses in particular their expertise in creation and their understanding of academic integrity in acknowledgment of open sources	OLT*, NUS
Teachers	4.	Review foundation teaching courses for university teachers to facilitate understanding of open educational practice and model best practice by using open content in the courses	OLT*, UA DVCAs, CADAD
	5.	Weight awards and grants towards teachers' adaptation and use of OER (versus development of new OERs)	OLT*, CADAD
	6.	Encourage and reward the diversity of academic teaching-related roles that flow from potential disaggregation of university services e.g. assessment and RPL expertise	UA DVCAs
	7.	Foster community of practice for open resources developers and build their understanding of Open Design	ACODE
Standards	8.	Review institutional strategic plans, course policies and RPL policies in light of impact of open content and student-driven degrees on degree pathways, course coherence, evidence of meeting standards	UA, TEQSA
Intellectual Property, Licensing &	9.	Intellectual property in education and widely disseminate understanding of the reform	Aust Digital Alliance, National Copyright Unit, Creative Commons Australia, AUSGOAL
	10.	Facilitate wider use of Creative Commons licensing –	

Copyright	refer universities & academics to forthcoming OLT Toolkit	UA, ACODE, CADAD, NCU
	11. Promote and prepare for libraries role in curating both open and closed resources, in particular student-created open resources	CAUL
	12. Promote development and adoption of open textbooks	ACODE, CAUL
	13. Establish national support for peer review of open educational content	OLT*
ICT Infrastructure	14. Accelerate roll-out of broadband access to regional areas in order that no learner is disadvantaged in open use of high quality digital resources by university courses	NBNCo, CAUDIT, AARNet
	15. Provide access to a free open platform for delivering open courses	OUA
	16. Underpin portfolio degrees and student mobility by confirming national collaboration on Digital Student Data Project as per Groningen Declaration	UA DVC Corp,
Research	17. Facilitate on-going educational research and benchmarking on open education and open design in conjunction with international projects	OLT*, ACODE
Discoverability	18. Build on Australia's progress with Open Access for research outputs by adding mechanisms, metadata and rewards for sharing educational resources	OLT*, CAUL, ACODE, AUSGOAL
	19. Create "open" librarian roles and "open" educational developer roles for working with academics to discover, evaluate and adapt OERs	CAUL, ACODE
	20. Build on past experience nationally and internationally that discoverability is best enhanced via discipline-based approaches	Australian Councils of Deans
Collaboration	21. Foster national and international partnerships for open education and revisit potential broader role for Open Universities Australia	UA, OUA, OLT*
	22. Support collaboration across professional groups e.g. librarians, educational technologists, academic developers	CAUL, CAUDIT, ACODE, CADAD
	23. Foster open education as a platform for Regional Development	UA DVC Corp
	24. Establish productive partnerships with museums and galleries in curating content for openness	Council Australasian Museum Directors, ABC, SBS, NBNCo
Sustainability	25. Promote OERs as supportive of universities' sustainability goals including efficiencies in production of digital learning resources	UA, OLT*, CAUL, NUS

OLT ceased operating at the time that this project was completed. The OLT inclusion in the roadmap signifies a role for government.

Challenges for OER

The case studies developed and collected by the OpenEdOz project were used to surface insights for national action as outlined in our National Roadmap. However, they also surfaced challenges in implementing OERs. Three broad challenges are summarised here.

Supporting Student Use

Several case studies highlight that students are not being able to assess the quality, reliability or trustworthiness of OERs. In addition to fostering students' "open education literacies", well managed discipline-based repositories may assist.

In one case study students were concerned at the use of OERs and felt that the teacher was abrogating responsibility for teaching. Thus it is important to align staff and student perceptions by:

- ensuring any OERs can be badged/rebadged as needed e.g. a resource developed at CSU could be badged for use at ANU;
- scaffolding lifelong learning processes for students;
- promoting greater levels of student information literacies.

Pursuing the spirit of student-centred education, the project deliberately set out to find Australian examples of student co-creation of OER. However, reality currently falls well short of this vision yet. Both students and teachers will need support to achieve this worthy goal.

Supporting Teacher Reuse and Sharing

Most popular coverage of open education focuses on the *development* of open education courses. However, the power of open education practices comes from teacher *adoption* of open courses and open resources. Both sides of the equation need to be working.

It is not yet well-understood or well-articulated how open courses can be integrated into existing university courses. The implications for standards in higher education are likewise not yet understood. The impact of potentially disaggregated approaches to provision of university education requires on-going investigation.

In addition we will need to:

- acknowledge AND reward those who put their time and effort into OER (reuse and, if creation, sharing);
- promote open education literacy to facilitate teacher adoption of OER;
- promote greater levels of teacher digital literacy in order to facilitate remix and repurpose of OER.

Supporting Infrastructure

Australia has a good track record in fostering sharing of educational resources in both the school and vocational sectors. However, a similar project in the university sector (ALTC Exchange) proved problematic and was cancelled. Lessons learnt from this substantial development need to be better understood in order that Australia can move forward with providing universities with an infrastructure to support easy sharing and easy finding.

Whereas the Exchange focussed on downloading and uploading nationally funded resources under Creative Commons licensing, the scoping for infrastructure now might also include delivery platforms for open courses. Open Universities Australia, an organisation founded by federal government grants in the 1990s, and now owned by a number of shareholder universities, is well-positioned to explore and lead innovative thinking in this area.

Challenges for implementing OpenEdOz recommendations

As mentioned in Chapter 1, an international survey by the Commonwealth of Learning and UNESCO (2012) identified Australia as one of the few nations with NO national policy for Open Education. The context for Australian university education is less centralised than many other countries. Therefore, it was our intention in formulating the OLT project, NOT to finalise a national policy but rather to *move towards* a national policy by identifying the main issues and main players for Australia, using a Roadmap as the basis for national policy-making by those in position to act.

At the time of formulating the project recommendations, an overarching role was envisaged for the Office for Learning and Teaching, because they were the funding body for the project. However, OLT ceased operating around the same time that this project was completed.

In a work-around to the lack of central authority for this area, the OpenEdOz Roadmap highlights relevant national organisations who could contribute to a national strategy for Open Education. Indeed, many of them contributed suggestions in the rounds of consultation held during this project. They are now invited to be facilitators of contributing actions as per the road map. However, it is imperative that these contributing actions be supported by national leadership and vision for Open Education. Individual universities and individual universities will pursue goals around Open Education but these actions will be more productive if backed by national approaches and a shared understanding of the benefits of Open Education for our economy.

National Strategies, in detail

I.   Advocacy

(Contributing Strategy 1)
Critical to achieving the potential benefits of adoption of OEP/OER in higher education in Australia is an extensive awareness-raising program. A 2014 Babson Survey Research Group report "Opening the Curriculum"[13] estimates that between two thirds and three quarters of US teaching faculty are unaware of OER/OEP. This could in part be a terminology issue in that many would already be using YouTube clips or photos from Flickr in lectures and learning materials. However, the OEP movement may have not succeeded yet in positioning the institutional and national benefits of open education in the minds of teachers, management, or government.

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[13] Retrieved October 9, 2016 from: http://www.onlinelearningsurvey.com/oer.html

The benefits include a reduction in costs of education for both students and institutions; improvements in the quality of learning through use of innovative OEP/OERs; and the opportunity to enhance Australian higher education's international reputation. National awareness-raising should include business models for strategic return on investment and clear explanations of the Creative Commons licensing options.

It is envisaged that awareness-raising activities could include the development and sharing of case studies of good practice and relevant examples of use to support implementation efforts. Sharing of these resources should take place at Australian summits, conferences, and workshops. These events would also serve to raise awareness of the importance of open education at the intersection of university business models and university knowledge transfer as well as social justice commitments.

These awareness-raising activities should be combined with programs that build capacity (staff development) and facilitate networking/sharing to develop the full range of competencies required to ensure more effective use of OER. These activities also serve to encourage development of a shared vision for open education within Australian higher education, with opportunities to align with individual institutions' vision and mission and at the same time, to be linked to national incentives.

It is acknowledged that many academic libraries already promote Open through activities such as Open Access Week; Open Ed Week; provision of access to repositories to provide open access to research outputs; open access publishing; open data; and open source.

Some university libraries also support: OAWAL (Open Access Workflows for Academic Librarians), appointments of an Open Librarian, curating open resources whether research repositories, OER or data archives and providing metadata for description and discovery. Library guides for students and academics often list OER or advocate OER in a separate guide. Librarians have also advocated by adding Creative Commons licences (e.g. CC BY) to their own content creation and making them publicly available e.g. information literacy videos. Key to advocacy, are clear guidelines on how OER can be identified as opposed to resources that are just free with no capacity or permission to use, reuse, revise, remix, and redistribute.

They do this within their institutions, across the profession, as well as in international and multidisciplinary forums.

Internationally, specific Open Education roles have been established to support awareness-raising activities and to promote development and use of open educational practices. For example in the State of Oregon, USA, an Education

Program Specialist 2 (Open Educational Resource Specialist) was established. [14] The project advocates for the establishment of similar roles in Australia.

There are now several national and global conferences on Open Educational Practice, Open Educational Resources, Open Access and increasingly on the confluence between the various components of "open".

However, the critical mass required for OEP/OER to become mainstream has not yet been reached.

The Advocacy strategy could benefit from developing and supporting a well-designed and maintained HELP site to facilitate use of OEP/OERs to provide transformational learning and teaching. The OpenEdOz website could host a range of resources and maintain a discussion forum on use of OEP/OER in Australia. There are numerous resources already available and accessible and an initial reference list has been developed and placed on the website.

The following national organisations could play a major role in engaging with and promoting OEP:

- Australian Government Department of Education and Training
- Universities Australia
- Australian Council for Open Distance and E-learning
- Council of Australian University Librarians
- Council of Australian Directors of Academic Development
- Council of Australian University Directors of Information Technology
- Open and Distance Learning Association of Australia

Relevant Case Studies:

- Charles Sturt University Open Education Strategy in a mixed mode university
- Charles Sturt University Developing courses for OERu – a CSU perspective
- University of Tasmania Curriculum design for open education - micro course pilot and Exploring the use of Open Educational Resources (OER) in medical education at the University of Tasmania
- University of Technology Sydney Learning2014: An institution-wide strategy to encourage innovation in teaching and learning
- University of Technology Sydney Adding value to OERs in an open education practice-based degree
- University of Southern Queensland Open Textbook Initiative
- UK Open Educational Resources programmes 2009-2012
- University of Rwanda The challenge of opening up education in Rwanda
- Tacoma Community College Open Education Project

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[14] Retrieved October 9, 2016 from:
https://www.governmentjobs.com/careers/oregon/jobs/1314170/education-program-specialist-2-open-educational-resource-specialist

- Otago Polytechnic, NZ [The Development and Implementation of an Intellectual Property Policy using Open Access Principles](#)

II.   Students

(Contributing Strategies 2-3)

All students (regardless of their discipline) should develop digital and information literacy skills during their study, including literacy in Open Education. A high level of competence in these is required for future careers and to support innovation and agility, thus enabling business to be more competitive and productive.

To inform these activities, there is a need to conduct research and evaluation of the ways in which students use and understand open resources and open courses. What is needed in particular is a greater understanding of students' expertise in creation of resources, and of their understanding of academic integrity in acknowledgment of open sources.

The project case studies highlighted the following:

- Examples of student creation of resources (UTAS1 and UWS)

- Ease of access and lack of cost is encouraging student use of OERs (UTAS1, USQ).

- Student use to fill a gap in understanding, to see practical examples, to compensate for lack of personal contact with lecturers, especially in large classes (UTS2)

- Students value the clarity of presentations in OERs and being able to see alternative perspectives from those presented in class (UTS2)

- The need to ensure professional development and capacity building for students relating to understanding of OERs, IP and licensing, discoverability (UTS3)

- Students' role as advocates, who assisted in assessing open materials; provided useful feedback on the (changed, more open) learning process; recognised and valued the changed learning experience with OEP; and saw a growing interest in the open movement (Tacoma Community College)

- Students actively lobbying for open textbooks to reduce additional costs of university education (British Columbia).

As scope increases for students to become involved in the co-creation of content/OER, the role of librarians, educational designers and educational technologists become critical to help with the resulting questions: is it an OER? Can it be reused or adapted? How can I share my created content appropriately? How best to sustainably maintain student-created OERs? Which should be kept and which not? Should the OER be open or partially open? What kind or which platform?

The following national organisations could play a major role in engaging with and promoting students' involvement with Open Educational Practices:

- Australian Government Department of Education and Training
- Universities Australia – DVC Academic network
- National Union of Students

Relevant Case Studies:

- University of Tasmania 1 [Exploring the use of Open Educational Resources (OER) in medical education at the University of Tasmania](#)
- University of Tasmania 2 [Curriculum design for open education – micro course pilot.](#)
- University of Technology Sydney 1 [Learning2014: An institution-wide strategy to encourage innovation in teaching and learning](#)
- University of Technology Sydney 2 [Student experience of open educational resources in large classes](#)
- University of Technology Sydney 3 [Adding value to OERs in an open education practice-based degree](#)
- University of Southern Queensland [Open Textbook Initiative](#)
- University of Western Sydney [Toward a sustainable OER development model: repurposing the cognitive surplus of student-generated content](#)
- [Tacoma Community College Open Education Project](#)
- University of Canterbury, [NZ Delivery of OERu open online course integrated with postgraduate university course](#)
- [The British Columbia Open Textbook Project](#)

III. Teachers

(Contributing Strategies 4-7)

A key finding from the case studies has been that academics lack a basic understanding of open educational practices and open educational resources. This lack of awareness and understanding of how to source, reuse, rework, remix and redistribute open educational resources could be redressed using the following strategies.

1. Build capacity in open course design by embedding OERs as a core aspect of the learning experience, rather than as supplemental. This will involve a change in culture and practice to more collaborative models of learning and teaching, active learning with authentic assessment and greater reflective practice. In the *Higher Education Standards in a Disaggregated Environment* case study, open course design was seen as enabling a role for "academic staff as curators rather than content developers"[15.]

   Creating the environment for change and supporting an incremental change approach requires strong support at the senior and national level (evidenced in

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[15] OpenEdOz Case Study. Retrieved October 9, 2016 from:: [Higher Education Standards in a Disaggregated Environment](#) , C. Ewan

case studies UTS1 and UK OER Programmes). The benefits are innovative approaches to learning and teaching which are cost effective and enhance international reputation.

2. Foundation teaching courses for university teachers should include an understanding of open educational practice and model best practice by using open content in the courses. For example, the UTAS micro course on curriculum design for open education could be adopted/incorporated by other HE institutions.

3. Awards and grants should be weighted towards teachers' adaptation and use of existing OERs vs development of new OERs. Learning and teaching grants to encourage innovation and experimentation have proven valuable – as shown in the case studies from UTS1 and the UK OER Programmes. Grants targeted towards the development of open textbooks have been successfully used in North America with University of Southern Queensland piloting grants to encourage the development of open textbooks.

4. Encourage and reward the diversity of academic teaching-related roles that flow from potential disaggregation of university services e.g. assessment, RPL expertise. Librarians, usually in partnership with other support/professional units should work with academics not only in finding, but incorporating open resources into course content, helping with copyright/licencing questions, and/or creation of OER or open textbooks for their courses either to replace commercial publications or to fill in gaps in the published textbook market.

5. Communities of practice for open resources developers should be fostered to encourage the reuse of resources across Institutions. Foundation courses are offered by the majority of Australian Universities and this could be the starting point for collaboration in reusing courses or content across Institutions. This would foster and encourage open design of educational resources.

The following national organisations could play a major role in engaging with and promoting teachers' adoption of OEP:

- Australian Government Department of Education and Training
- Universities Australia and their DVC Academic network
- Council of Australian Directors of Academic Development
- Australian Council for Open Distance and E-learning
- Australasian Society for Computers in Learning in Tertiary Education

Relevant Case Studies:

- Higher Education Standards Panel, Australia Higher Education Standards in a Disaggregated Environment
- Charles Sturt University Developing courses for OERu – a CSU perspective
- University of Tasmania Curriculum design for open education - micro course pilot and Exploring the use of Open Educational Resources (OER) in medical education at the University of Tasmania

- University of Technology Sydney 1 [Learning2014: An institution-wide strategy to encourage innovation in teaching and learning](#)
- University of Technology Sydney 2 [Adding value to OERs in an open education practice-based degree](#)
- University of Southern Queensland [Open Textbook Initiative](#)
- University of Western Sydney [Toward a sustainable OER development model: repurposing the cognitive surplus of student-generated content](#)
- OER Africa and Africa Nazarene University [Harnessing OER in support of expanded ODeL higher education provision in Kenya](#)
- Tacoma Community College [Open Education Project](#)
- Otago Polytechnic, NZ [The Development and Implementation of an Intellectual Property Policy using Open Access Principles](#)
- University of Canterbury, [NZ Delivery of OERu open online course integrated with postgraduate university course](#)
- [UK Open Educational Resources programmes 2009-2012](#)
- [The British Columbia Open Textbook Project](#)

IV.   Higher Education Standards

(Contributing Strategy 8)

In light of the impact of open content and student-driven degrees on degree pathways, course coherence, and evidence of meeting standards, there will need to be significant review of institutional strategic plans, course policies and RPL policies.

The overarching issue is that technology's capacity to drive "disruptive" innovation has significant implications for the business models of higher education providers and for the standards and regulatory processes underpinning them. Important innovations that promise to drive changes to business models are: open education in its many forms including MOOCs and open access resources, and the potential to award credit for their completion; digital badging, micro-credentialing, nano-degrees; unbundling of the components of higher education e.g. potential to divorce content design and delivery from assessment; student support from course delivery; subcontracting of services such as assessment of RPL; technology enabled powerful statistical data that permits forensic analysis of student and course performance on multiple levels.

Quality assurance of open learning and technology mediated learning modes is well understood and addressed by most institutions and there is a wealth of material to support those efforts. The challenges derive from the variety of contexts in which technology mediated and open learning can be undertaken and the variety of purposes for which people choose to use it. There are implications for program coherence and integrity; student experience; assessment; authentication; and credit mobility.

These issues are explored further in a recent Fellowship for the Higher Education Standards Panel: *Higher Education Standards in a Disaggregated Environment*,

summarised as one of the project's case studies, and in recent European Commission reports[16].

The following higher education organisations have a major role in rethinking higher education standards as impacted by Open Educational Resources:

- Universities Australia
- Tertiary Education Quality and Standards Agency

Relevant Case Studies:

- Charles Sturt University Open Education Strategy in a mixed mode university
- Charles Sturt University Developing courses for OERu – a CSU perspective
- University of Technology Learning2014: An institution-wide strategy to encourage innovation in teaching and learning
- University of Western Sydney Toward a sustainable OER development model: repurposing the cognitive surplus of student-generated content
- University of Rwanda The challenge of opening up education in Rwanda
- Tacoma Community College Open Education Project
- University of Canterbury Delivery of OERu open online course integrated with postgraduate university course

V. Intellectual Property, Licensing and Copyright

(Contributing Strategies 9-13)

There is a need to evaluate and reform Australia's approach to intellectual property in education and then to widely disseminate understanding of the reform. According to a current OLT project on Open Education Licensing, most universities are offering MOOCs and videos, and a small number are publishing open textbooks. The majority consider issues around the complexity of copyright and licensing and the copyright ownership of material on the internet as an impediment to participate in open education initiatives especially the time taken to prepare resources and understanding the underlying rights of material included. Some feel that Australia cannot be competitive in the MOOC space because our copyright legislation is tighter than the legislation in the United States of Amercia, for example, or Canada where educators are able to use closed copyright resources in OERs with correct acknowledgement.

In 2014 the Australian Law Reform Commission (ALRC) released the Final Report on their review of Copyright and the Digital Economy[17]. It will be important that those

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[16] VM-Pass project http://www.openeducationeuropa.eu/en/project/vm-pass and *Validation of Non-formal MOOC-based Learning: An Analysis of Assessment and Recognition Practices in Europe (OpenCred)* Retrieved October 9, 2016 from: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC96968/lfna27660enn.pdf

[17] Retrieved October 9, 2016 from: http://www.alrc.gov.au/publications/copyright-report-122

involved with open education in the higher education sector contribute to the debate following the Government response to this report, with particular regard to restrictions, the complexity of copyright and licensing and associated rights in the higher education context, and copyright and ownership of resources/learning materials online and the ability to re-use these.

A national open licensing policy should align with UNESCO goals and extend an "Open First" approach to teaching and learning in higher education. *One effective way to accelerate open licensing and the sharing of higher education resources would be to adopt, within policy frameworks, an appropriate national open licensing framework. This might form part of an overarching policy framework on intellectual property rights (IPR) and copyright in higher education that spans both research and teaching activities. Such a licensing framework could also cover the copyright and IPR status of educational materials produced by government departments and agencies[18].* The case study from Otago Polytechnic is an outstanding example of an institution following through on this UNESCO goal.

Open licensing will facilitate wider use of Creative Commons licensing. Of particular use to universities and academics is the OLT project *Open Education Licensing*. Their forthcoming OEL Toolkit aims to be an effective and practical copyright and licensing tool to assist university teachers and managers with making effective business and pedagogical decisions around online education materials and services (see Figure 2).

Promotion and preparation for libraries' role in curating both open and closed resources, in particular, student-created open resources is vital. A number of case studies highlighted the role of the Library's valuable assistance in searching, collection, evaluation, curating and promoting OERs and their knowledge of licensing requirements. By engaging with students, Library staff can identify issues/patterns of difficulty and report these to subject coordinators.

A number of case studies and the literature also highlight the need for development and adoption of open textbooks. There have been several highly successful projects in North America, supported by their ministries of Education (BCcampus and Tacoma Community College) and the University of Southern Queensland conducted a project in 2015 in Australia which has been broadened to a university-wide OEP initiative[19]. Australian university courses do not have quite the same relationship with textbook publishers as do our North American counterparts, however, there is no doubt that as the cost of a university degree increases, students are lobbying against additional costs due to expensive textbooks and that open textbooks are an important initiative.

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[18] Retrieved October 9, 2016 from: http://unesdoc.unesco.org/images/0021/002136/213605e.pdf

[19] Retrieved October 9, 2016 from:
http://www.usq.edu.au/~/media/usq/learnteach/2016%20usq%20open%20educational%20practice%20grant%20information.ashx?la=en
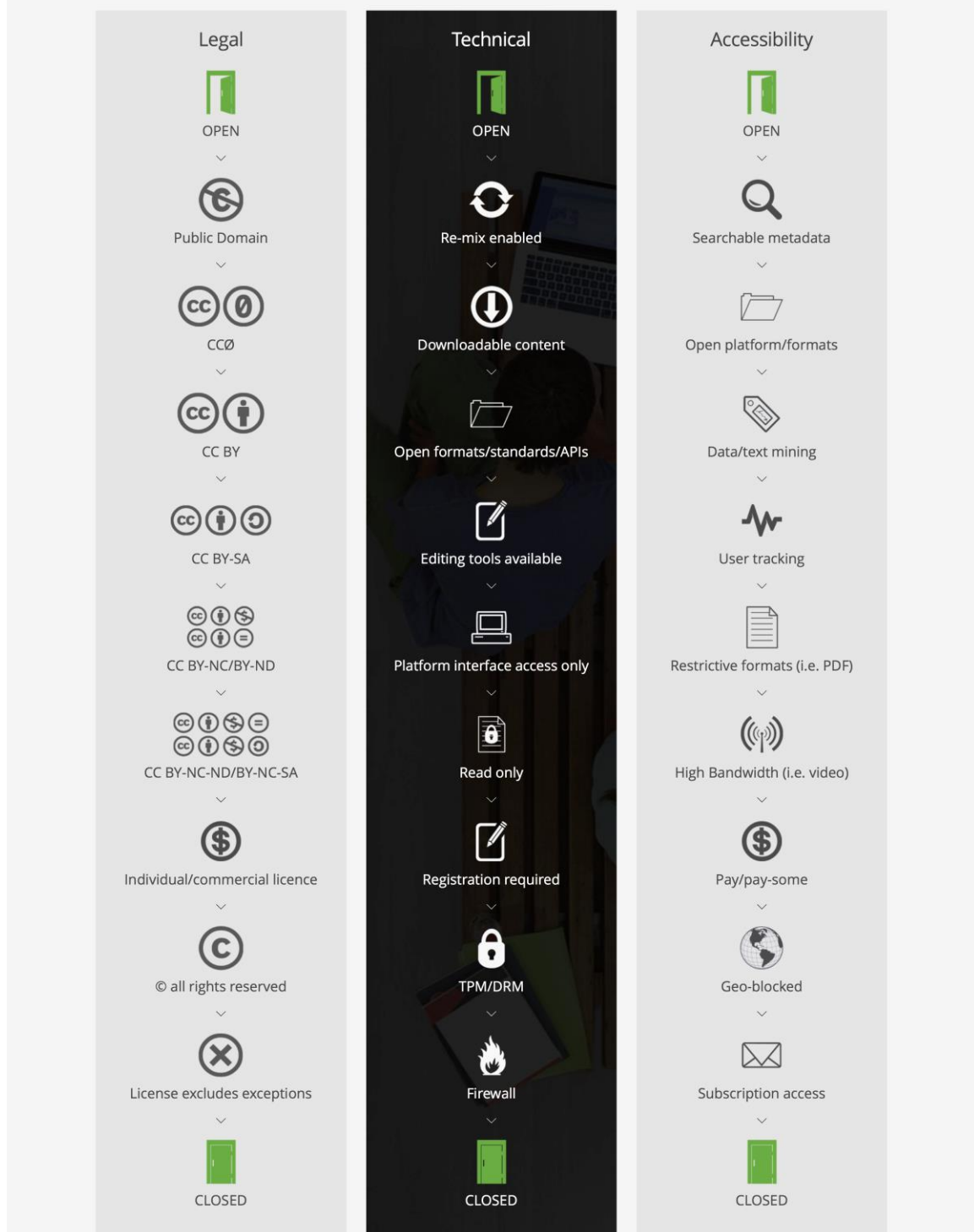
Figure 2: Continuum of Openness proposed by OLT project on Open Education Licensing www.oel.edu.au

The following national organisations could play a major role in strategies for promoting Intellectual Property, Licensing and Copyright:

- Australian Council for Open Distance and E-learning
- Australian Digital Alliance
- Australian Government Department of Education and Training
- Australasian Society for Computers in Learning in Tertiary Education
- AUSGOAL
- Council of Australian Directors of Academic Development
- Council of Australian University Librarians
- National Copyright unit, incorporating Creative Commons Australia
- Universities Australia

Relevant Case Studies:

- Higher Education Standards Panel, Higher Education Standards in a Disaggregated Environment
- Swinburne University Open Education Licensing: Exploring effective open licensing policy and practice for Australian universities
- Charles Sturt University Developing courses for OERu – a CSU perspective
- University of Tasmania Curriculum design for open education - micro course pilot University of Technology Sydney Learning2014: An institution-wide strategy to encourage innovation in teaching and learning
- University of Technology Sydney Adding value to OERs in an open education practice-based degree
- University of Western Sydney Toward a sustainable OER development model: repurposing the cognitive surplus of student-generated content
- University of Wollongong Reluctant Mathematician MOOC: refreshing approach to stressed maths learners
- UK Open Educational Resources programmes 2009-2012
- Tacoma Community College Open Education Project
- Otago Polytechnic, NZ The Development and Implementation of an Intellectual Property Policy using Open Access Principles
- The British Columbia Open Textbook Project

VI. National ICT Infrastructure

(Contributing Strategies 14-16)

There is an urgent need to accelerate roll-out of broadband access to regional areas in order that no learner is disadvantaged in open use of high quality digital resources by university courses.

The project also recommends the provision of a free open platform for delivering open courses, exemplified in case studies from CSU and UTAS, because open courses

serve a public good. There is scope to provide a free platform as a collaboration between universities.

Current platforms include Open2Study in Australia and installations of WordPress. There are also various well-known international platforms such as edX, Coursera and Future Learn. However there are substantial costs to universities to engage with these platform providers.

Platforms need to recognise the extensive use of mobile technologies by students and staff by OERs (UTS) and draw on learning analytics of the use of open resources by students to improve delivery of all learning materials and teaching approaches and thereby improving student learning.

One example of university collaboration is Australia's Digital Student Data Project which underpins portfolio degrees and student mobility by confirming national collaboration as per the 2016 Groningen Declaration[20].

Any national ICT infrastructure needs to take account of intellectual property and copyright and be cognisant of privacy legislation.

The following national organisations could play a major role in engaging with and developing a national ICT Infrastructure for OEP:

- National Broadband Network Co
- Council of Australian Universities Directors of Information Technology
- Open Universities Australia
- AARNet Pty Ltd (Australia's Academic and Research Network)
- Universities Australia DVC Academic Network

Relevant Case Studies:

- University of Tasmania Curriculum design for open education – micro course pilot
- University of Technology Sydney Student experience of open educational resources in large classes
- Charles Sturt University Developing courses for OERu – a CSU perspective

VII.   Research

(Contributing Strategy 17)

Undertaking research is essential to expand and further enhance any field of study. The same applies to open education. Researching open education could be key to uncover the full potential, impact and effectiveness of open education.

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[20] The Groningen declaration: The Future of Digital Student Data Portability. Retrieved October 9, 2016 from: www.groningendeclaration.org

National funding programs, incentives and support should be provided to higher education institutions in Australia, so that the sector can further understand and take full advantage of open education to enhance learning and teaching, and research. Investigating the key open education issues should be considered as one of the national research priorities if the government wants to position Australian higher education amongst other developed countries already embracing and benefiting from open education. In addition, research could speed up the introduction of OER and open education into mainstream education in Australia, as well as promote collaboration and innovation. Establishing a database of evidence and relevance of strategies to market advantage compared with investment of time and money would be of great value to senior executives.

ACODE plays a major role in benchmarking standards for e-learning which could be expanded to include standards around OEP.

The following national organisation could play a major role in engaging with and promoting research:

- Australian Government Department of Education and Training
- Australasian Council for Open and Distance and E-learning

Relevant Case Studies:

- Charles Sturt University Open Education Strategy in a mixed mode university
- University of Tasmania Exploring the use of Open Educational Resources (OER) in medical education at the University of Tasmania
- University of Wollongong Reluctant Mathematician MOOC: refreshing approach to stressed maths learners

VIII. Discoverability

(Contributing Strategies 18-20)

The three contributing strategies for Discoverability will enhance development, use and re-use of OERs and promote open course design. Building on Australia's progress with Open Access for research outputs, mechanisms, metadata and rewards could be added for the sharing of educational resources.

Crucial to accelerating sharing of educational resources is acknowledgement and recognition via peer review. National support for peer review of open educational content is needed. For example, in its Open textbook initiative BCcampus launched a textbook review program in which qualified faculty from nominated participating institutions from British Columbia were paid $250 to review a textbook in the collection. The reviews were based on a standard rubric and publicly posted alongside the textbook in the collection, an online repository which is now open to the world, providing credibility both for the resource and for the reviewers.

There is also a need to support infrastructure to develop and maintain the development of OERs to ensure that there is a critical mass of OERs which are well maintained e.g. MERLOT[21]. A consortium approach to maintaining a collection or repository would foster sharing and collaboration across institutions, leading to sustainability. From the BC Campus Open Textbook initiative, institutions have 'adopted' open textbooks to host and maintain within the collection.

Creating "open" librarian roles and "open" educational developer roles for working with academics to discover repositories and evaluate and adapt OERs will enhance learning and teaching practice in the open environment. Librarians help students find resources, evaluate them in relation to their research/assignment question and reference them correctly. Librarians advise on copyright and licensing. This applies to free and "open" resources as well as those paid for (that is free to the institution's students). Many academic libraries have created OER study guides. Librarians also offer consultations for academics to discover OER for particular subjects or courses either to be "flipped" into the content or recommended to students. Registrants in MOOCs may not have access to the Library and the subscribed resources provided to fee-paying students of that organisation. Athabasca University Library addressed this with an Open Library[22]. Educational Developers can collaborate with academics and Librarians by advising on how best to use existing OERs in modules and/or courses as well advise on how to design pedagogically sound OERs. This learning and teaching expertise will ensure that OERs are used appropriately to meet the intended learning outcomes of a course. Educational Developers should also be included as part of the development team to ensure that new OERs are underpinned by research based pedagogies that increase the quality of student learning. When using existing OERs, educational developers can recommend how to best use the OER in an existing module or course to ensure that it fits seamlessly into existing content or course. Academic developers could also develop guidelines on the use of OERs in learning and teaching.

There is a real need to build on past experience nationally and internationally that discoverability is best enhanced via discipline-based approaches (see Jisc case study) which are well maintained, e.g. BEST Network (Biomedical Education Skills and Training Network)[23].

The following national organisations could play a major role in the Discoverability strategy:

- Australian Government Department of Education and Training
- Council of Australian University Librarians
- Australian Council for Open Distance and E-learning
- Australian Governments Open Access and Licensing Framework
- Australian Councils of Deans

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[21] Retrieved October 9, 2016 from: https://www.merlot.org
[22] Retrieved October 9, 2016 from: http://conference.oeconsortium.org/2015/presentation/the-open-library-at-au-2/
[23] Retrieved October 9, 2016 from: https://www.best.edu.au/

Relevant Case Studies:

- Charles Sturt University [Developing courses for OERu – a CSU perspective](#)
- University of Tasmania [Curriculum design for open education – micro course pilot](#) and [Exploring the use of Open Educational Resources (OER) in medical education at the University of Tasmania](#)
- University of Technology Sydney [Learning2014: An institution-wide strategy to encourage innovation in teaching and learning](#) and [Adding value to OERs in an open education practice-based degree](#)
- [The British Columbia Open Textbook Project](#)

IX.   Collaboration

(Contributing Strategies 21-24)

A priority goal should be to foster national and international partnerships for open education.

Some excellent examples of existing international partnerships include the OERu[24], the UNESCO/COL OER[25] Knowledge cloud, and the OER Research Hub[26]. Loose federated/syndicated collaborations can work as effectively as more structured approaches. The BC campus initiative initiated a strategy whereby institutions can adopt an open textbook and ensure it is maintained and updated. UK OEP programmes took an incremental approach with three phases. They shared and cascaded expertise across institutions between phases and developed an OER toolkit[27]. The UWS case study describes creation of a set of design principles which will be made available for reuse by other HE institutions.

It may be timely, as a nation, to revisit a potential broader role for Open Universities Australia. Established over 20 years ago with Federal government funding as a collaboration of universities pursuing the goals of open education (meaning then no entry pre-requisites and anywhere, anytime study modes), OUA has recently developed Open2Study as a platform for open (and free) study of single subjects and modules. All universities, not only shareholder universities, can provide content on Open2Study, subject of course to determinations about a balanced mix of topics in the portfolio. Some Australian universities do offer open education through their own branded channels but there is more international visibility through a combined channel branded 'Australia' in the same way that FutureLearn in the UK was initially conceived to market in the open the "best of British" courses.

Our collaboration strategy also suggests that in order to foster rapid and effective development of OERs, opportunities for collaboration across professional groups

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[24] Retrieved October 9, 2016 from: http://oeru.org
[25] Retrieved October 9, 2016 from: https://oerknowledgecloud.org/
[26] Retrieved October 9, 2016 from: http://oerhub.net/
[27] Retrieved October 9, 2016 from: https://jisc.ac.uk/guides/open-educational-resources

could be fostered within universities e.g. librarians, educational technologists, academic developers (CSU, UTAS, UTS case studies) as well as externally through collaboration between the professional networks. Australian professional networks have developed excellent relationships over the past 15 years e.g. CAUL/CAUDIT/ACODE. Feedback from national organisation suggests that collaborations around open education practices could move higher up the agenda.

Collaborations across institutions for OER curriculum development can foster exciting and productive collegial interdisciplinary work. There are many topics that are generic to every university rather than being points of differentiation therefore it can be more cost-effective to collaborate. The Epigeum[28] model is one example. Based in the UK, Epigeum establishes collaborations for development of student modules on, for example, academic integrity, academic literacies or online study.

The collaboration strategy could also establish productive partnerships with museums, galleries, national broadcasters (ABC/SBS) and government agencies in curating content for openness. Curating content was a theme targeted by NBNCo Education and Training when the National Broadband Network was first launched. Simultaneously, they also announced a substantial program of grants for education and training programs that could demonstrate the value to Australian education of high speed broadband. Many of the successful grants went to organisations that curate content for the public good and some were collaborations with universities. We recommend a continuation/extension of this strategy.

Importantly, open education has been positioned as one platform for regional development (BCcampus, Otago Polytechnic). Government's Regional Development priorities around ICT infrastructure and education should include a strategy on open education collaborations for improving the sustainability of regions, for improving reach to remote, regional and indigenous learners, and for improving linkages to the world.

The following national organisations could play a major role in the Collaboration strategy:

- Universities Australia
- Universities Australia DVC Corporate network
- Open Universities Australia
- Australian Government Department of Education and Training
- Council of Australian University Librarians
- Australian Council for Open Distance and E-learning
- Council of Australian Universities Directors of Information Technology
- Council of Australian Directors of Academic Development
- Council of Australasian Museum Directors
- Australian Broadcasting Corporation (ABC)

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[28] Retrieved October 9, 2016 from: https://www.epigeum.com

- SBS (Special Broadcasting Service)
- NBNCo
- Australian Access Federation

Relevant Case Studies:

- Charles Sturt University [Open Education Strategy in a mixed mode university](#)
- Charles Sturt University [Developing courses for OERu – a CSU perspective](#)
- Charles Sturt University [What is Uni Like MOOC](#)
- University of Western Sydney [Toward a sustainable OER development model: repurposing the cognitive surplus of student-generated content](#)
- University of Tasmania [Exploring the use of Open Educational Resources (OER) in medical education at the University of Tasmania](#)
- University of Tasmania [Learning2014: An institution-wide strategy to encourage innovation in teaching and learning](#)
- University of Technology [Adding value to OERs in an open education practice-based degree](#)
- [UK Open Educational Resources programmes 2009-2012](#)
- University of Rwanda [The challenge of opening up education in Rwanda](#)
- [Tacoma Community College Open Education Project](#)
- Otago Polytechnic [The Development and Implementation of an Intellectual Property Policy using Open Access Principles](#)

X.   Sustainability

(Contributing Strategy 25)

Open educational practices are highly aligned with universities' sustainability goals especially with regard to efficiencies in production of digital learning resources and need more visibility in sustainability plans.

A 2015 OECD report includes a chapter on sustainability focused on cost recovery: *A conceptual model is presented that distinguishes between three models of cost recovery: philanthropy (and government support), community and revenue. In each case the challenge of sustainability, methods of covering initial and maintenance costs, and measuring success are presented. The role that government plays in providing funding and setting up favourable conditions for recovering costs using the three models is explored.* (Orr et al, 2015)

Sustainability was the theme of the OER15 conference, "Mainstreaming Open Education"[29]. The development of sustainable business models is a strong focus of the OERu initiative (refer OERu case study). Sustainability was identified as a key area in the OpenEdOz Think Tank, by the Reference Group and in several case studies (UK OEP, UWS, BC, Tacoma CC). Funding for universities is decreasing and the current content creation practices used are unsustainable. Transforming learning and

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[29] Retrieved October 9, 2016 from: https://oer15.oerconf.org/

teaching is essential and most universities are already discussing diversification of academic workload profiles and greater recognition for sessional teaching staff.

OEP can contribute to this transformation but it must be built into mainstream university practice rather than the current project-based approach that is heavily dependent on individual academic motivation for innovation. For universities to develop a culture of using and sharing OERs, making workloads more manageable, there need to be multiple internal strategies to embed open-practices and OERs into 'business as usual'. Projects can be useful to raise awareness and gain initial momentum but for building a sustainable approach there are areas that have potential to create change by changing "business as usual" such as: Course Approvals processes that draw attention to open educational resources; staff capacity building activities in digital literacies and media development coupled to open-licensing concepts; new policies for example:

a. Intellectual Property policy to empower staff to create, share, use and re-use OERs. Institutions should consider the Reuse, Revise, Remix, Redistribute, Retain (ownership) framework developed by David Wiley and provide appropriate tools to support ease of reuse[30].
b. "OER first" textbook policy recommending use of Open Textbooks
c. Whole of institution "OER first" policy – OER and share as default for all or wider activities.
d. Establishing specific open education-focused positions assists in development and sustainability of open practices (Refer to Tacoma Community College case study).

A consortium approach would share the load in development, and maintaining and updating OERs as mentioned in the previous signpost. Collaboration and partnerships between universities and a range of organisations, including training bodies, assists in embedding and sustaining OER activities (Refer to UK OER Programme case study). Of course these types of projects likewise need to have sustainability planned into them, e.g. JISC open curriculum design[31] and Open University Future Learn projects[32].

OpenEdOz recommends the incorporation of sustainability and sustainability development goals into national and institutional plans. These should be couched with cost efficiencies and developments internationally with reference to United Nations development goal 4: *Ensure inclusive & quality education for all and promote lifelong learning*[33].

A number of case studies and the literature highlight the need for development and adoption of open textbooks as a sustainability objective not only for reducing costs

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[30] Wiley, D. *The Access Compromise.* Retrieved October 9, 2016 from: http://opencontent.org/blog/archives/3221
[31] Retrieved October 9, 2016 from: https://www.jisc.ac.uk/rd/projects/curriculum-design
[32] Retrieved October 9, 2016 from: https://www.futurelearn.com/
[33] Retrieved October 9, 2016 from: http://www.un.org/sustainabledevelopment/education/

of course design but also to alleviate escalating costs for students of undertaking university education. There have been several highly successful projects in North America, supported by their ministries of Education (BCcampus and Tacoma Community College). University of Southern Queensland conducted a project in 2015 in Australia which has been broadened to a university-wide OEP initiative[34]. Australian university courses do not have quite the same relationship with textbook publishers as do our North American counterparts, however, there is no doubt that as the cost of a university degree increases, students are lobbying against additional costs due to expensive textbooks and that open textbooks are an important initiative.

The following national organisations could play a major role in the Sustainability strategy:

- Universities Australia
- Australian Government Department of Education and Training
- Council of Australian University Librarians
- National Union of Students

Relevant Case Studies:

- The British Columbia Open Textbook Project
- Tacoma Community College Open Education Project
- United Kingdom Open Educational Resources programmes 2009-2012
- University of Western Sydney Toward a sustainable OER development model: repurposing the cognitive surplus of student-generated content

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[34]Retrieved October 9, 2016 from:
http://www.usq.edu.au/~/media/usq/learnteach/2016%20usq%20open%20educational%20practice%20grant%20information.ashx?la=en

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Additional references and useful websites related to OER and Open education practices are available from the website openedoz.org

Appendix B: Certification by Deputy Vice-Chancellor

I certify that all parts of the final report for this OLT grant provide an accurate representation of the implementation, impact and findings of the project, and that the report is of publishable quality.

Professor Toni Downes

Deputy Vice-Chancellor (Academic)

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Appendix C: Impact Plan

Project ID14 3972: Students, Universities and Open Education

	Anticipated changes at:			
	Project completion	**Six months post-completion**	**Twelve months post-completion**	**Twenty-four months post-completion**
1. Team members	Recognition of project participants' contribution to a national strategy for OEP; and as institutional experts with knowledge of good practice in OEP and use of OERs.	Project lead/member of institutional OEP projects. Develop and deliver professional development workshops in OEP. Act as change agents. Publication of case studies.	Recognition through institutional promotion and awards. Contributions to open policy development at institutional and national level. Active contributions to the OpenEdOz website: notifications of OEP events, including Open Access Week; adding new publications and references to the site; contributions to forum discussions.	Mainstreaming of OEP as L&T practice. Presentations at national and institutional levels.
2. Immediate students	Experience of different/open learning environments. Skills development in independent learning. Participation in production and/or co-creation of learning resources. Contribution to a National Strategy.	Lobby for curriculum change at institutional level to incorporate OEP. Greater digital literacy skills and better prepared for work environment. Recognition of student OEP work, e.g. a Badge.	Greater awareness and acceptance of OEP at institutional level. Student participation in developing and delivering an advocacy program and able to offer examples of co-created resources.	OEP mainstreamed as policy at national and institutional level with active student participation.

3. **Spreading the word**	Open access to the published National Strategy for OEP and citing of this publication. OpenEdOz website with resources and examples of good practice to support OEP - http://openedoz.org/ Presentation to DVC (Acs) and several national organisations of published strategy. Conference presentations, e.g. Education Without Borders (national OER symposium), Universities Australia Satellite event.	Further presentations to relevant national organisations and internationally. National L&T bodies engaged in discussion to develop a national open strategy. Research publications in relevant journals. Collaboration with other Australian HE institutions to promote/develop OEP. Active use of the OpenEdOz website for resources, best practices examples and discussion on OEP/OER.	Government funding made available for specific OEP projects. Receipt of national awards recognising best practice in OEP. Institutional/National Repositories of OERs established.	All/most HE Institutions develop OEP into mainstream policies. Programs to build capacity in open course design established.
4. **Narrow opportunistic adoption**	Early adopters /course teams take up the option of using OEP/OER's in targeted/new courses and/or when reviewing current learning resources.	Use of OEP expands with both top down and bottom up support and increased examples of good practice.	Industry and philanthropic funds secured to further OEP work commenced with the project.	OEP embedded in curriculum design practice at lead institutions. Communities of practice for open resource developers/adaptors are established.
5. **Narrow systemic adoption**	Lead institutions gain additional funding to further progress OEP adoption.	Policy changes actively promoted by Senior Executive and supported with funding to		

	Institutional curriculum design policies actively support OEP, including student participation. Aspects of OEP accepted as graduate attributes.	develop/use of OEP in specialised areas, provide professional development and add open criteria to awards and grants programs. Engagement with students re OEP actively promoted.		
6. Broad opportunistic adoption		Professional development delivered to all academic staff in lead institutions.	Professional development delivered to 20% of academic staff in targeted disciplines across Australia.	
7. Broad systemic adoption			Acceptance of OEP as good practice and as playing a key role in positioning Australian higher education on the global stage. Active student contribution to OEP strategies and policies at institutional levels. Government promotion of National strategy.	Active student contribution to OEP strategies and policies at State and national levels. Philanthropic use of OERs via COL and OERU.

1. **What indicators exist that there is a climate of readiness for change in relation to your intended project?**

   - Increased acceptance and use of OEP internationally with well-developed policies, particularly in UK, Europe, NZ, US, Canada and increasingly in Asia.
   - Three previous OLT/ALTC projects have been completed with a focus on OEP.
   - Adoption of OEP as strategic initiatives by some Australian HE institutions.
   - Transformation of learning environments with use of technologies.
   - OEP supports innovation and efficiency in course design and development.
   - Student expectations have changed regarding learning environments.
   - Students claim to be familiar with a range of technologies but research indicates they are not always as well prepared as anticipated.
   - Students are aware of and using the many, and increasing, free at-point-of-use content options often instead of prescribed textbooks and supplied resources.
   - Increasing costs of resources for students.

2. **In brief and indicatively, what impacts (changes and benefits) do you expect your project to bring about, at the following levels and stages of the Impact Management Planning and Evaluation Ladder (IMPEL)?[38]**

   The project had two major outcomes: a) a national strategy roadmap for Open Education; and b) case studies of students and teachers working with open educational practices in a variety of disciplines.

   Team members have increased knowledge of good practice in OEP and evidence to support this. They are able to provide resources and advice to others interested in OEP. The success of and issues raised from the case studies have informed the national strategy. Team members have also gained an international perspective from the project's Reference Group. There are good opportunities for publication and future conference presentations to support OEP.

   Students participated in structured programs using OEP and OERs and in some cases had the opportunity to co-create curriculum and resources. This enhanced their digital literacy skills, increased their understanding of the range of learning environments and how data is prepared and managed, and better prepared them as lifelong learners.

   The project can impact all higher education institutions as they prepare to adopt OEP and use, re-use, re-mix and create OERs. The project has identified opportunities, issues, good practices, change management and process and procedure for incorporating OEP in teaching policy.

   The lead institutions will continue to embed OEP in teaching policy and practice, including an emphasis on the student voice, initially working with early adopters then targeting specific courses/programs.

   Systemic adoption will occur as OEP is mainstreamed as policy at the institutional level, using the national strategy guidelines. With government support, and perhaps some

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[38] The full version of the IMPEL model, developed by Tilly Hinton while on secondment to the Office for Learning and Teaching, is online at http://www.olt.gov.au/grants-and-projects/impact. Retrieved October 9, 2016. Further information on this model and resources to assist in considering project impact are available on the website.

industry/philanthropic support, OEP will be taken up nationally in a structured way and with the student voice incorporated.

3. What are your strategies for engaging with stakeholders throughout the project?

The case studies are engaging teaching staff and students at the lead institutions. The lead Directors, Project Team and some members of the Reference group have presented the project and sought feedback at two national symposium, meetings of the international OERu consortium and a Think Tank of senior executives. The lead Director engaged with a range of senior university staff at the OLT Satellite events in Canberra. All Directors presented at a meetings of DVCs (Academic) to discuss the national strategy. The interim report was supported and encouraged and useful feedback was provided which has been incorporated in the final report. Feedback was also sought from sixteen national organisations in January 2016 with several responding quickly.

4. How will you enable transfer[39] that is ensuring that your project remains impactful after the funding period?

The project highlights the need for changes to existing teaching policies and practice to support learning environments using technologies and provides examples of good practice and resources to assist change, including in relation to institutional practice. By engaging at senior executive level there will be greater awareness of the benefits to universities of using OEP – innovative pedagogy, increased marketing opportunities and efficiencies. The Student Voice will also highlight students' acceptance of and support for OEP. The lead and co-Directors will participate in further discussions at meetings of DVCs (Academic) and have been invited to address the executives of several national organisations to discuss the project and it recommendations. The website will be maintained and promoted as a hub for OEP in Australia, encouraging discussion and providing a collection of useful resources.

5. What barriers may exist to achieving change in your project?

- Resistance to change;
- Understanding of copyright and IP associated with OEP;
- Funding to support the necessary initial workload and professional development, including production of resources.

6. How will you keep track of the project's impact? What analytics may be useful?

- Reporting at annual OEP symposiums, workshops; institutional reporting;

- Establishment of open repositories and analytics on number of resources and access to these will be useful;

- Analytics enabled on our OpenEdOz website to track access by users.

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[39] Transfer in this context means 'the processes undertaken to maintain momentum and impact beyond the funded life of the project and beyond the project team', Hinton, T., Gannaway, D., Berry, B., & Moore, K. (2011). The D-Cubed Guide: Planning for Effective Dissemination. Sydney: Australian Teaching and Learning Council.

7. **How will you maintain relevant project materials for others to access after the project is completed?**

   A website has been established and will store all relevant project materials, resources and exemplars. Resources will be mobile friendly and able to be accessed on a variety of devices. Where appropriate, printed versions of resources will be available. The website will be maintained by the lead institution, Charles Sturt University.

Appendix D: External Evaluator's Report

External evaluation of the OpenEdOz project

Professor Gráinne Conole

Bath Spa University, UK

February 2016

Evaluation of the OpenEdOz project

This report is the external evaluation the OpenEdOz project, which was undertaken by Gráinne Conole from Bath Spa University in the UK.

Background

The OpenEdOz project consisted of a consortium of the following institutions: Charles Sturt University (lead), University of Tasmania, and University of Technology, Sydney.

This is a timely and important project given the increasing important and impact of OER and Massive Open Online Courses (MOOCs) on both campus-based and distance learning offerings. The project was developed, in part, because it was felt that despite the fact that Australia has a long history in distance education, in terms of fostering and using OER, Australia lags behind other countries.

The OpenEdOz project had the following aims:

- Focus on the missing voice of students in understanding emerging technology-based open educational practices (OEP);
- Determine how student learning outcomes can be enhanced with open education practices;
- Develop case studies that captures University Practice;
- Develop a National Roadmap for an Australian Open Education Strategy, fostering relevant uptake of open educational resources (OER) and open courses.

The approach adopted by the project was to develop national strategic implications with respect to OER in parallel with the practice components of the project so that practice was informing strategy. Analysis of OER practices in the three different types of institutions was supplemented by targeted case studies from national and international reference group members. Recommendations and strategies for national action were surfaced from analysis of the case studies and workshops at a national Think Tank and events organised by Office of Learning & Teaching and Universities Australia. The project focused on three inter-related aspects with respect to OER: national strategy, surfacing the student voice, and university practice. The consortium recognised that getting an authentic student voice would be challenging.

The project collected 22 case studies of OER and associated practices and reported on interim findings of the project at appropriate events as outlined above. From these opportunities for better implementation of OER and associated practices were identified, along with lessons for future development.

Four interactive events/workshops were organised and run to inform the understanding of national strategy in relation to OER:

- International Think Tank – Sydney, November 2014
- Universities Australia Satellite Event – Canberra, March 2015
- National DVCA briefing – Sydney, October 2015
- Education without borders – Albury, November 2015

The project drew on a number of existing related OER initiatives and in particular: the UNESCO Paris Declaration (2012), the Commonwealth of Learning (2013), the POERUP project (2014) and the OPAL initiative (2011).

Methodology

The methodology adopted follows Patton's utilisation focussed evaluation, where the emphasis is on practical evaluation, which can inform future developments (Patton 2008).

The evaluation of the project consists of the following elements:

- Interviews with the partners to ascertain:
  - Their motivation for being involved in the project, their vision for the project and the extent to which this has been achieved. And what they would consider to be a successful outcome of the project.
  - The challenges associated with the project and achieving the objectives.
  - The nature of the consortium and the expertise to undertake the work.
  - The relationship with OERu.
  - Reflections on what worked well and what didn't work so well.
- Analysis of the OpenEdOz site[40] and associated resources and documentation.

Findings

The project website articulates the aims of the project and the approach adopted. It defined the term Open Educational Resources, drawing on UNESCO's[41] definition:

> UNESCO defined OER as 'any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation'.

It also defined the term 'Open Education' as:

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[40] Retrieved October 9, 2016 from: http://openedoz.org/

[41] Retrieved October 9, 2016 from:
http://www.unevoc.unesco.org/go.php?q=Open%20Educational%20Resources

Open Education is the adoption of practices which support the (re)use and production of open education resources (OER) through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path.[42]

Open education is the umbrella term that covers everything we're doing with openness as a lever to try to expand access to educational opportunity to the entire world. OER are part of it; open teaching is part of it, open access is to research part of it, open assessment is part of it, open badges and other open credentials are part of it, open policies are part of it, etc.[43]

Vision of the project

The benefits of embracing Open Education are articulated as follows:

- Economies of scale through collaborative co-production of learning resources.
- Opportunity to raise quality of learning at decreased time and financial cost.
- Provision of learning materials that are richer, and more appropriate to the contexts and styles of learning of an increasingly diverse student community.
- Opportunity to provide learning to disadvantaged communities globally to the remote and regional areas of Australia.
- Promote greater collaboration between Universities in fostering peer review and collegial development of learning materials.
- Greater levels of transparency into the teaching process.

Furthermore, the consortium believe that Open Education can play an important role in positioning Australian higher education on the global stage through showcasing the expertise contained within our Universities.

From the interviews the following were listed as underpinning the vision for the project:

Firstly, that higher education in Australia has got to change, because of the global impact of digital technologies generally and OER and MOOCs specifically in eroding Australia's market value. On the other hand, consortium members felt strongly that OER is one of the ways of assisting that change to happen

Secondly, that overtime OER become more embedded in institutional practices, with appropriate national and institutional strategies to facilitate adoption.

Thirdly, that the project will result in policy refinement and adoption, in an appropriate format for the Australian higher education context and culture.

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[42] Retrieved October 9, 2016 from:
https://oerknowledgecloud.org/sites/oerknowledgecloud.org/files/OPAL2011.pdf

[43] Retrieved October 9, 2016 from: http://www.educause.edu/discuss/information-technology-management-and-leadership/openness-constituent-group/open-education-vs-open-education-resource

Fourthly, interviews stated that the project was unique because of the focus on the student voice, along with positioning OER as addressing students demand and needs.

Fifthly the case studies were also seen as a key strength. Interviewees were interested in what the case studies would tell them about OER practice, from which lessons learnt can be identified, along with recommendations for the future.

Strengths of the project

One of the key strengths of the project is the consortium. The consortium members are all senior executives in universities in Australia, with a strong track record in learning and teaching innovation, promotion of the use of digital technologies, and use of OER. It was evident from the interviews that members had a clear and shared vision for the project and believed that the project was timely and important. Nonetheless, given that the partners are senior executives and hence busy interviews recognised that it was important to ensure careful management of project scheduling and achievement of key milestones. There was some concern that the project was over ambitious; despite this interviewees felt that it was worth trying to achieve.

Another strength was the rich set of case studies collected and collated over the lifespan of the project, giving rich insights in to the nature of OER activities in Australia.

The draft final report for the project argues that there is a need to develop a national Open Education strategy for OER and associated practices to improve the productivity of higher education in Australia.

Analysis of the 22 case studies resulted in three recommendations for national action.

1. Agree on a national strategy to leverage contemporary IT for improving productivity of higher education through use of Open Educational Resources.
2. Fund a national body such as the new Institute replacing the Office for Learning and Teaching to drive the strategic development.
3. Engage relevant national organisations in implementation of elements of the strategy as per the OpenEdOz roadmap.

A major output from the project was the national roadmap. It provided practical guidelines on the following aspects associated with OER: advocacy, students, teachers, standards, intellectual property, licensing and copyright, ICT infrastructure, research, discoverability, sustainability, and collaboration. In terms of advocacy the roadmap suggest the organisation of key summits, conferences and workshops on OER in conjunction with relevant national organisations, such as OLT and ACODE. For students, there is a need to define Open Education Literacies as part of digital and information literacies. There is also a need to evaluate students' use of and perceptions about OER. From the teacher perspective there is a need to help them gain a better understanding of OER and associated practices, and in particular, how they can better incorporate OER into their teaching. It would be useful to

create awards for adoption of OER and to provide financial support for teachers to use them. Finally, there is a need to develop a community of practice for open resource developers, a space for them to share and discuss their use of OER. In terms of standards there is a need to review institutional strategic plans, course policies, and recognition of prior learning (RPL) in light of the impact of open content. Better understanding of the intellectual property, licensing and copyright is needed and support provided for those curating OER and providing training and advice on their use. An appropriate and robust ICT infrastructure is needed for OER at an institutional level. Research and evaluation of the use and impact of OER needs to continue. Australia's model for open access for research outputs should be mirrored for OER. Finally, support needs to be provided to encourage collaboration on the use and evaluation of OER across relevant stakeholders, partners, professional bodies, and relevant projects.

Challenges of the project

From the interviews and the draft final project report a number of challenges were identified in terms of effective uptake of OER. Firstly, to date mainstreaming of OER is low and OER are not considered a priority for most institutions. Secondly, related to this, in general across the Australian higher education sector, there is little understanding of what OER are. And even if stakeholders are aware of OER, they have difficulty finding them, evaluating their relevance for their practice, and repurposing them for use in different contexts. There is a culture of academics creating their own resources, rather than repurposing existing ones. Thirdly, there was some concern that the project aims were over ambitious. Fourthly, there was a concern that the recommendations articulated by the project would not be taken on board by the relevant stakeholders. In particular many stakeholders are nervous about use of digital technologies and sceptical about the perceived rhetoric around promoting of OER. Fifthly, institutional challenges were identified and in particular the involvement of key stakeholders, such as technical support to provide a robust infrastructure of OERs, involvement of librarians in terms of quality assurance and curation of OER, and support staff to provide appropriate training opportunities on using and repurposing OER.

Findings from the case studies

The 22 case studies provided a snapshot of open educational practices across Australia, 8 were contributions from the project partners, 2 from other related Australian national projects, 3 from other Australian institutions, and 9 from the international reference group. Each case study was organised into the following sections: institution and institutional context, keywords and OEP themes, what is the case study about?, what is the issue or need you are addressing?, how was the initiative implemented?, outcomes, issues and challenges, insights and recommendations for institutional and national policy development

The following themes emerged from across the case studies:

- University strategy and policy in relation to OER
- The teacher voice
- Access to new markets and content expertise
- Inter-university collaboration on the development and delivery of OER
- The development of international curriculum
- Students use of OER
- Pedagogical approaches, such as active learning, open learning, student participation and a student-centred curriculum, video-based learning, authentic learning
- Degree design based on OER
- Standards, quality, competency based assessment recognition of prior learning
- Open licencing
- The role of libraries
- Open course design and development based on OER
- Lower costs for students
- Courses offered as OER, micro Open Online Courses (mOOCs), OER and OERu
- National policy
- Accreditation of informal and non-formal learning[44]
- Student co-creation

A number of challenges to the implementation of OER were identified from the case studies.

Firstly, it was evident that students lack the necessary digital literacy skills to make effective use of OER. In particular, students were not able to assess the quality, reliability or trustworthiness of OER. There were also culture issues, some students did not like using OER and felt that the teacher was abrogating responsibility for teaching. To overcome this the following strategies were suggested: ensuring that OER can be badged/rebadged as needed, scaffold the learning process, and promote greater levels of student information literacy skills.

Secondly, there is a need to support teachers in not only the creation of OER but also their adoption of open courses and resources. There is a need to better understand how open courses and resources can be integrated into existing university courses. Teachers need to be rewarded for putting their time and effort into the creation and use of OER. In addition there is a need to promote open education literacy to facilitate better teacher adoption of OER.

Thirdly, there is a need to provide a robust ICT infrastructure to support OERs and enable teachers and learners to share and discuss these.

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[44] See the OpenCred report on recognition of informal and non-formal learning. Retrieved October 9, 2016 from: http://emoocs2016.eu/wp-content/uploads/2016/02/proceedings-emoocs2016.pdf page 491

To conclude, through the case studies, OpenEdOz achieved the project aims in terms of focus on the student voice in order to understand emerging technology-based Open Educational Practices (OEP) and having greater clarity in terms of how student learning outcomes can be enhanced with open education practices. The case studies are a valuable resource to enable universities and academics to develop OEP and better embed OER and as a contribution to deeper understandings of this global movement. More importantly, through the Roadmap, the project has signposted national actions for national organisations, as appropriate to the Australian context. The recommendation for a coordinated national strategy will facilitate broader adoption of Open Education. Meanwhile each individual action enacted by individual organisations will move Australia forward.

References

Patton, M. Q. (2008). <u>Utilization focussed evaluation</u>. Saint Paul, MN, Sage %7 4th.

Appendix E: Case Study Listing and Links to website

Country	Institution	Author	Title	Theme/Keywords
Australia: Project Partner	Charles Sturt University	Prof Sandra Wills	Open Education Strategy in a mixed mode university	University strategy, university policy
Australia: Project Partner	Charles Sturt University	Ms Linda Ward	Developing courses for OERu – a CSU perspective	Teacher voice, access to new markets, and access to content expertise. OERu, open education, Open education resources (OER), open education practices (OEP)
Australia: Project Partner	Charles Sturt University	Mr Josu Abrego-Sanz	What is Uni Like MOOC	Inter-university collaboration on development & delivery
Australia: Project Partner	University of Tasmania	Dr Carina Bossu	Curriculum design for open education – micro course pilot	International curriculum - Teacher voice
Australia: Project Partner	University of Tasmania	Dr Carina Bossu	Exploring the use of Open Educational Resources (OER) in medical education at the University of Tasmania	Student use of OER
Australia: Project Partner	University of Technology Sydney	Dr Peter Kandlbinder Ms Janet Chelliah	Learning2014: An institution-wide strategy to encourage innovation in teaching and learning	Institutional Strategy Higher Education; Open Education; Active Learning; Student Participation; Student Centred Curriculum
Australia: Project Partner	University of Technology Sydney	Dr Peter Kandlbinder Ms Janet Chelliah	Adding value to OERs in an open education practice-based degree	Degree Design Based on OER; Open Learning; Masters Degrees; Student Participation; Active Learning; Open Educational Resources
Australia: Project Partner	University of Technology Sydney	Dr Peter Kandlbinder	Student experience of open educational resources in large classes	Video-based learning; freely available educational resources;

				large classes.
Australia (related national project)	Higher Education Standards Panel	Prof Christine Ewan Higher Education Standards Panel Research Fellow	[Higher Education Standards in a Disaggregated Environment](#)	Standards, quality, competency-basd assessment, RPL
Australia (related national project)	Swinburne University of Technology	Ms Robin Wright	[Open Education Licensing: Exploring effective open licensing policy and practice for Australian universities](#)	Open Licencing
Australia	Univesity of Southern Queensland	Prof Helen Partridge	[USQ Open Textbook Initiative](#)	Lower costs for students; authentic learning experience; access to university; role of libraries.
Australia	University of Western Sydney	Ms Mais Fatayer	[Toward a sustainable OER development model: repurposing the cognitive surplus of student-generated content](#)	Student co-creation.
Australia	University of Wollongong	Ms Sarah Lambert	[Reluctant Mathematician MOOC: refreshing approach to stressed maths learners](#)	Module based on OER, and Student voice.
Canada	Thompson Rivers University	Dr Irwin DeVries	[Open course design and development – lessons learned](#)	Open course design and development based on OER, Open learning, OERu
Canada	BCcampus British Columbia	Mr Clint Lalonde	[The British Columbia Open Textbook Project](#)	Lower costs for students
New Zealand	University of Canterbury	Prof Wayne Macintosh	[Delivery of OERu open online course](#) [integrated with postgraduate university course](#)	Course offered as OER; micro Open Online Course (mOOC), OER, OERu

New Zealand	Otago Polytechnic	Dr Robin Day Chair Open Education Resource Foundation	The development and implementation of an Intellectual Property Policy using Open Access Principles	Student Voice, Institutional Strategy, National Policy, Student Co-creation, Open Licensing, Open Textbooks
South Africa	Africa Nazarene University	Mr Tony Mays, Ms Mary Ooko	OER Africa and Africa Nazarene University harnessing OER in support of expanded ODeL higher education provision in Kenya	Institutional Strategy: New markets; OER curriculum design,/course design, materials development for higher education
South Africa	University of Capetown	Ms Glenda Cox Mr Thomas King	Student OER adaptation Project	Institutional Strategy; Access to content expertise; Student Co-creation, Student Voice
South Africa	University of Rwanda	Mr Bernard Nkuyubwatsi	The challenge of opening up education in Rwanda	Student Voice, Accreditation of informal & non-formal learning, socioeconomic inclusion in higher education
United Kingdom	Higher Education Academy/JISC	Dr Sarah Porter	UK Open Educational Resources programmes 2009-2012	National policy; institutional strategy; open licensing.
United States of America	Tacoma Community College, Washington DC	Ms Quill West	Tacoma Community College Open Education Project	Student Voice, Institutional Strategy; Lower costs access to education, Lower costs for students

Appendix F: Theme matrix

Case Study Theme/Source	Student Voice	Institutional Strategy	National Strategy	Student Co-creation	Course offered as OER (OERu)	Degree design based on OER	Module based on OER	Credit Transfer	Accreditation of informal & non-formal learning	Open Licensing	Open Textbooks
Sub-themes	Lower costs Access to university	New markets Access to content expertise Staff training	Province/ state policy Lower cost of entry to low SES students	Authentic learning experience Student Voice	New markets Philanthropic mission Teacher voice	Lower costs for university Staff training Role of Libraries	International curriculum Teacher voice	Standards Quality Transnational Accreditation Framework	Standards Quality Competency-based assessment RPL	Moral position Role of Libraries	Lower costs for students
CSU1 – Open Education Strategy		✓	✓								
CSU2 – Developing a course for OERu					✓		✓				
CSU3 – Collaborative MOOC development	✓	✓			✓						
UTAS 1 – Micro course pilot					✓		✓				
UTAS 2 – OER in medical education	✓			✓							
UTS1 – Learning 2014: institution – wide strategy		✓				✓					
UTS2 – Adding value to OERs in an open education practice-based degree				✓		✓	✓			✓	
UTS3 – Student experience of OER in large classes				✓	✓						
Higher ED Standards Project								✓	✓		
Open Ed Licencing project (Lead: Swinburne University)										✓	
University of Southern Queensland – Open Textbook project	✓				✓					✓	✓

University of Western Sydney – Student generated content				✓							
University of Wollongong – Maths MOOC	✓						✓				
Canada: BCcampus, British Columbia	✓										✓
Canada: Thompson Rivers					✓	✓	✓				
United Kingdom: HEA/JISC OER programme		✓	✓							✓	
New Zealand: Canterbury University					✓		✓				
New Zealand: Otago Polytechnic	✓	✓	✓	✓						✓	✓
Rwanda: University of Rwanda	✓	✓							✓		
South Africa: Africa Nazarene University		✓				✓					
South Africa: University of Cape town	✓	✓		✓							
USA: Tacoma Community College	✓	✓		✓							